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HISTORY AND ANALYSIS OF SOVIET DOMESTIC BOND POLICY

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On January 21, 1918, the new Bolshevik regime repudiated the internal as well as the external debt of the Tsarist and Provisional governments that had preceded it. That the Soviet government subsequently made extensive use of domestic bond financing is not widely known, and Soviet domestic bond policy has received little attention in the Western literature.[1] The purpose of this paper is to provide an analytical history of Soviet domestic bond policy.

Until the early 1960s the Soviet State Budget (Gosbiudzhet SSSR), which is a consolidated budget for all governmental units, ordinarily recorded an annual deficit.[2] In the early years of Bolshevik rule deficits were apparently financed by direct currency issue. Domestic state bonds were first issued in 1922, at the close of the civil war, as part of a program designed to restore monetary stability. By the mid-1920s state domestic bond sales had become the principal mode of financing budget deficits, and this continued to be the case, with only temporary exceptions (notably during the first two years of WWII[3]), through 1957.

The share of gross bond sales proceeds in all budgetary sources of funds provides a rough measure of the relative significance of domestic bond financing.[4] Gross bond proceeds rose from an average of 6.8% of budget sources during the late 1920s to a peak of 13% in 1931, at the height of the industrialization drive. The share declined to between 5 and 6% for the remainder of the 1930s, but it again reached 13% in 1943,

the most difficult war year. Between 1946 and 1956 the share varied between 6 and 9%. However, with the termination of the mass subscription bond series in 1957, the share fell to less then 1% in 1963. Since 1963, proceeds from bond sales to the public have been treated as a source of funds to the State Bank (Gosbank) rather than to the State Budget.[5]

That the Soviet State Budget relied upon domestic bond financing during periods of rapid development, war and post-war reconstruction requires no special explanation. Changes in the expenditure-revenue gap and in the tax structure of the Soviet State Budget over the course of development and war do not differ materially from the patterns characteristic of the budgets of non-socialist countries under similar circumstances, and the reasons for these phenomena are essentially the same.[6] However, there are a number of unusual, and indeed even unique, features of Soviet domestic bond policy, and an examination of these features also helps to explain the virtual abandonment of domestic bond instruments in the late 1950s.

The first section below is devoted to a brief description of the historical evolution of Soviet domestic bond policy. The principal characteristics of the mass subscription bond, which generated the bulk of bond proceeds from 1929 onward, are described and analyzed in the second section. The third section seeks to identify and to evaluate the main determinants of Soviet domestic bond policy.

I.

The main features of Soviet domestic bond issues are summarized in Table 1.[7] There are a number of trends that stand out in sharp relief. As might be expected, issue amount (Column 5) and term to maturity (Column 21)[8] increase over time. The growing and eventually dominant role of the mass subscription bond, which was sold on a ten-month installment plan and usually by payroll deduction, is also obvious. More surprising, however, are the accompanying downward trend in coupon and premia rates offered to the public (Columns 18, 19 and 20) and the frequent resort to conversions and other adjustments in face value, maturities and rates of return of outstanding issues (Columns 22 and 23). Of interest also is the fact that the Soviet State Budget came increasingly, and eventually exclusively, to rely upon lottery devices to determine the returns, if any, to bond holders (Column 20).

The evolution of Soviet domestic bond policy may be divided into a number of more or less distinct periods. The first, 1922 through 1927 or 1929, was one of experimentation and of relatively high-cost, short-term borrowing through open-market channels. The variety of different issues during this period was a consequence, according to one Soviet source, of the inexperience of policy makers in financial affairs.[9] The earliest bond issues were in-kind or gold-backed, which is explained by the fact that they were marketed during a period of severe monetary instability. No such guarantees were ever again offered once stabilization had been assured.

Table 1: Soviet State Budget Domestic Bond Issues

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
					To Whom:							Special Features:						Terms:			Changes in terms:	
Date	Description	Series	Face Value Amount (mill.poods)[a]	Face Value Amount (mill.rubles)[b]	Enterprises	Savings Bonds	Nepmen	Peasants	Workers	Cooperatives and Kolkozy	General Population	In-Kind Backed	Gold-backed	Use to pay In-Kind tax	Pledge as collateral	Subscription payroll deduction	Sold at market discount	Coupon rate	Lottery premium rate	Term (max.) of loan	Adjustment	Year
May 1922			10.0								X	Rye		X			95/100			8 mos		
Oct. 1922				10.0	X						X		X					6%	X	10 yrs		
Mar. 1923			100.0									Rye		X			95/100			11 mos		
Nov. 1923			1.0									Sugar		X			X			10 mos		
Feb. 1924				10.0	X								X						8%	6 yrs		
Mar. 1924				5.0				X					X				85/100	5%	X	2yrs9mos		
Apr. 1924				10.0					X				X					6%	X	5 yrs		
Feb. 1925				1.0			X										82/100	5%		1 yr		
Aug. 1925				30.0	X													10%		4yrs6mos		
Oct. 1925				10.0				X						X				12%	X	2 yrs		
Jun. 1926				10.0	X														8%	6 yrs		
Sep. 1926				3.0							X								X	5 yrs		
Feb. 1927				10.0							X					X			10%	8 yrs		
Mar. 1927				2.5				X						X				6%	7%	3 yrs		
Jun. 1927				20.0	X														8%	10 yrs		
Jun. 1927				20.0							X							12%		10 yrs		
Aug. 1927	Industrialization			20.0							X				X	X		6%	6%	10 yrs	unified	1930
Dec. 1927				15.0				X								X		6%	7%	3 yrs	unified	1930
Jul. 1928	Industrialization	1		55.0							X				X	X		6%	X	10 yrs	unified	1930
		2									X				X	X			X			
Sep. 1928				30.0							X							11%		10 yrs		
Oct. 1928				50.0	X														8%	15 yrs		
Mar. 1929				5.0							X								X	10 yrs	converted	[illegible]38
Jul. 1929	Industrialization	1		75.0							X				X	X		6%	X	10 yrs	converted	1936
		2									X				X	X			X			
Nov. 1929				12.5	X													0.0%		5 yrs		
Jan. 1930				5.0							X								12%	10 yrs	converted	1938
Jul. 1930	Industrialization plus unification	1		170.0							X				X	X		6%	X	10 yrs	converted	1936
		2									X				X	X			X			
Mar. 1931				370.0		X												10%		10 yrs		
Jun. 1931	Industrialization	1		160.0							X				R[c]	X		10%		10 yrs	converted	1936
		2									X				R	X			X[d]			
Feb. 1932				10.0							X								X	10 yrs	converted	1938
Jun. 1932	Industrialization	1		320.0							X				R	X		10%		10 yrs	converted	1936
		2									X				R	X			X			
May 1933	Industrialization	1		300.0							X				R	X		10%		10 yrs	converted	1936
		2									X				R	X			X			
Apr. 1934	Industrialization	1		350.0							X				R	X		10%		10 yrs	converted	
		2									X				R	X			X			
Mar. 1935				30.0							X								X	10 yrs	converted	1938
May 1935	Industrialization	1		350.0							X				R	X		8%		10 yrs	converted	1936
		2									X				R	X			X			
Jul. 1936	Industrialization plus conversion	1		400.0							X				R	X		4%		20 yrs	converted	1948
		2									X				R	X			X			
Jul. 1937	Defense	1		400.0							X					X		4%		20 yrs	converted	1948
		2									X					X			X			
Apr. 1938	Conversion			240.0							X								3%	20 yrs	converted	1947
Jul. 1938	Industrialization	1		500.0							X					X		4%		20 yrs	converted	1948
		2									X					X			X			
Aug. 1939	Industrialization	1		600.0							X					X		4%		20 yrs	converted	1948
		2									X					X			X			
Jul. 1940	Industrialization	1		800.0							X					X		4%		20 yrs	converted	
		2									X					X			X			
Jun. 1941	Industrialization	1		950.0							X				R	X		4%		20 yrs	converted	1948
		2									X				R	X			X			
Apr. 1942	War	1		1,000.0							X				R	X			4%	20 yrs	converted	1948
		2								X					R			2%				
Jun. 1943	War	1		1,200.0							X				R	X			4%	20 yrs	converted	1948
		2								X					R			2%				
May 1944	War	1		2,500.0							X				R	X			4%	20 yrs	converted	1948
		2								X					R			2%				
May 1945	War	1		2,500.0							X				R	X			4%	20 yrs	converted	1948
		2								X					R			2%				
May 1946	Reconstruction			2,000.0							X				R	X			4%	20 yrs	converted	1948
May 1947	Reconstruction			2,000.0							X				R	X			4%	20 yrs	postponed	1957
Dec. 1947	Conversion			-							X								3%	20 yrs		
Feb. 1948	Conversion	1		2,980.0							X				R				2%	20 yrs	postponed	1957
		2								X					R			2%				
May 1948	Reconstruction			2,000.0							X				R	X			4%	20 yrs	postponed	1957
May 1949	Reconstruction			2,000.0							X				R	X			4%	20 yrs	postponed	1957
May 1950	Reconstruction			2,000.0							X				R	X			4%	20 yrs	postponed	1957
May 1951	4th 5YP			3,000.0							X				R	X			4%	20 yrs	postponed	1957
May 1952	4th 5YP			3,000.0							X				R	X			4%	20 yrs	postponed	1957
Jun. 1953	4th 5YP			1,500.0							X				R	X			3%	20 yrs	postponed	1957
Jun. 1954	4th 5YP			1,600.0							X				R	X			3%	20 yrs	postponed	1957
May 1955	4th 5YP			3,200.0							X				R	X			2%	20 yrs	postponed	1957
May 1956	5th 5YP			3,200.0							X				R	X			2%	20 yrs	postponed	1957
May 1957	5th 5YP			1,200.0							X				R	X			2%	5 yrs		
Jul. 1966				-															3%	20 yrs		

Table 1

Notes:

a. One pood equals 36 lbs. or 16.38 kg.

b. 1960 rubles, i.e., the decimal place was moved one place to the left in 1960.

c. See discussion of retirement schedules in Section II of the text.

d. This and all subsequent subscription bond issues through 1941 were described as "all-win" lotteries, for all bond holders stood to win something over the course of the loan.

e. R = restricted.

Sources:

V. P. D'iachenko et al., eds., Finansovo-kreditnye slovar' (Moscow: Gosfinizdat, 1961), pp. 297-305.

L. B. Valler, "Razvitie gosudarstvennogo kredita v SSSR," in P. Ya. Dmitrichev, ed., Gosudarstvennye zaimy v SSSR (Moscow: Gosfinizdat, 1956), pp. 20-43.

M. Iu. Nakhmanovich, "Gosudarstvennye zaimy SSSR i ikh rol' na razlichnykh etapakh rasvitiia narodnogo khoziaistva. Gosudarstvennye zaimy i denezhno-veshchevye loterei v sovremennykh usloviiakh," in P. A. Chetverikov, ed., Sberegatel'nye kassy SSSR za 50 let (Moscow: Izdat. Finansy, 1972), pp. 42-58.

Early issues were also sold on the market at discount, but this practice was also soon abandoned.

The State Budget experimented during the 1920s with bonds earmarked for sale to particular classes of Soviet society. Because of its relative size and remoteness, both geographically and politically, the peasantry was the main object of this technique (Column 9), but special issues were also directed to workers and the Nepmen.[10] Class earmarking was abandoned after 1927, apparently because it was not successful. A large portion of the issues that were earmarked for sale to the peasantry, for example, were in fact purchased by the urban population.[11]

Another type of bond was issued in the 1920s by the State Budget that was earmarked for sale to productive enterprises (Column 6). This reflected the difficulty encountered in attempting to market bonds to the population at large, for it was apparently easier to sell bonds to enterprises.[12] But it also represented an early attempt to control and/or to reduce enterprise liquidity selectively. With the development of the control functions of the State Bank (Gosbank) with respect to enterprise receipts, outlays and deposits and the success of the mass subscription bond, bond sales to enterprises were terminated after 1929.[13]

The use of a lottery device of some sort to enhance the attractiveness of Soviet domestic bonds was common from the earliest issues (Column 20), and it is a technique that has been widely utilized elsewhere. State lottery and premium bonds were very popular in England, for example, prior to 1823, when the practice was prohibited by Act of Parliament.[14] In England

a lottery device was ordinarily utilized merely to distribute premia over and above a coupon rate, and several Soviet issues of the 1920s operated similarly. However, the last such combination was offered in 1929. Thereafter, bonds were either lottery or coupon bonds.

The first mass subscription bond, with provisions for payroll deduction and installment purchase, was issued in February, 1927. It was a relatively small issue, but its success apparently surprised and greatly impressed officials of the State Budget. Another, and larger, issue appeared in August of the same year, inaugurating a new period in the history of Soviet domestic bonds. The August issue was accompanied by a major propaganda campaign on the theme of rapid industrialization. Committees were organized in each factory, institution and organization to encourage subscription.[15] The organization of subscription committees was not unlike that of certain community charity drives in the United States today, in which members of the committee make personal visits to potential donors. However, the Soviets definitely followed "hard sell" methods. This proved to be a very effective way to mobilize informal and formal pressure upon potential purchasers. A measure of the success of the bond subscription committees may be seen in the fact that this and all subsequent mass subscription bond issues were oversubscribed, and frequently by a considerable margin.[16] In effect, the development of the subscription bond and the formation of bond promotional committees removed bond sales from the open market, thereby laying the groundwork for reducing expected

rates of return below open market levels.

Thus, by the end of the 1920s the main outlines of Soviet domestic bond policy had been drawn and greatly simplified. From 1930 onward the mass subscription bond was the principal source of bond proceeds, and in that year the industrialization and peasant issues of 1927-1928 were "unified." According to Soviet official sources this was not a conversion properly speaking, for the differential rates of return on the bonds so unified were maintained by adjusting coupon rates on the substitute issue.[17] Although Soviet sources are silent on this matter, it does appear that maturities were uniformly extended by the unification.

Throughout the 1930s industrialization bond sales campaigns were conducted in the late spring or early summer of each year to promote mass subscription of ever increasing issue amounts. The "industrialization" subscription bonds of the 1930s were offered in two distinct series, between which the potential purchaser could choose. One series promised a straight coupon rate. The other featured an unusual lottery bond in which all bond holders were assured of winning something (plus return of the face value of the bond) over the nominal term of the bond. These were called "all-win" bonds, and this feature, of course, constrained both the number and size of the large winnings.

All outstanding mass subscription bonds were converted in July, 1936. All maturity dates were extended twenty years, coupon rates were reduced to 4%, and the expected rate of return on the all-win series was presumably also reduced.[18] The purpose of the conversion was to reduce

current and future service charges. Steps had been taken in 1931 to reduce the "liquidity" of mass subscription bonds and thus to extend the effective term of these bonds. A bond holder was obliged by law to obtain special permission before being allowed to pledge his bonds as collateral for loans from the state savings bank system. However, in March, 1937, these restrictions were removed.[19]

In addition to the annual mass subscription bond issue, during the 1930s the State Budget continued periodically to issue a straight lottery bond that was sold on the open market and liquid in the sense that the holder could recover the face value of the instrument at any time from a state savings bank outlet. Hence they were colloquially described as "market bonds." Issue amounts were relatively small (see issues for March, 1929, January, 1930 and February, 1932 in Table 1), and they were intended for sale to the better-paid members of Soviet society. All outstanding issues were converted in 1938 into twenty-year, "3% state lottery bonds."[20] The conversion was severely adverse.

In March, 1931, a special ten-year, 10% coupon-rate bond was issued and earmarked for sale to the State Savings Bank. This instrument was designed to serve as the mechanism for transferring changes in the savings account liabilities to the State Budget.[21] The earnings were utilized by the Savings Bank to finance its activities. It is not clear from available Soviet sources just what happened to this issue subsequently. Interest rates offered by the savings bank system on the various types of savings deposits held by the public were reduced in 1936, coincident with

the conversion of outstanding mass subscription bonds. It seems likely, therefore, that additional issues (and/or conversions) took place after 1931, for bond transactions between the Savings Bank and the State Budget continued through 1963, when the savings bank system became the direct responsibility of the State Bank.

The last pre-war industrialization bond issue was scheduled for June, 1941, and it became, in effect, the first issue of the war period. Immediately upon the outbreak of war, pledging of subscription bonds was suspended indefinitely. The savings bank system was also instructed at this time to suspend repurchase of outstanding 3% state lottery bonds (of 1938). (The suspension was lifted for these "market bonds" in January, 1946.) All existing savings account balances were frozen for the duration of the war as well.[22]

Several significant changes were introduced in the first "war bond" subscription campaign of April, 1942. As had been the case in the 1930s, the issue was divided into two series. However, the coupon-rate series, reduced to 2% per annum, was offered exclusively to collective farms and (private) productive artels. The purpose of the special series, which was offered only with the four war bond issues (1942-1945), was to restrict the liquidity and thus the discretionary purchasing power of these non-state productive enterprises. In this sense, these special series were similar functionally to the issues earmarked for enterprises in the 1920s. The general population was offered only a lottery premium bond. According to a Soviet source, the population had demonstrated a preference in the

pre-war years for the lottery series, and it was therefore decided to abandon the coupon rate series.[23] The all-win principle was also replaced by a lottery system in which only a fixed portion of bond holders (probably 35%) stood to win anything over the nominal twenty-year course of the issue. This allowed increases in the size and number of large winnings. Finally, a straight retirement lottery was introduced, by means of which a certain fixed proportion of (non-winning) outstanding bonds were to be retired each year, beginning with the sixth year of the issue.[24] The evidence suggests that these changes reduced the expected rate of return below that for the 1941 mass subscription bond, but the available data do not permit a more precise conclusion.

The first of five "reconstruction" mass subscription issues appeared in 1946, with terms identical to those for war bonds. At the close of hostilities the Soviet economy had still not regained the level of output and employment of 1940. Moreover, the population had greatly increased its holdings of financial assets, particularly of hand-to-hand currency balances.[25] Concern about the probable impact of "pent-up" demand, coupled with plans for rapid reconstruction (and a poor harvest in 1946), led to a monetary reform at the end of 1947. The reform called for an exchange of hand-to-hand (paper) currency at the rate of one new ruble to ten outstanding. Savings deposits (which included the Soviet counterpart of the demand deposit) in excess of three-thousand rubles were reduced at a somewhat more favorable rate. (Money prices and wages remained unchanged.)

A conversion of outstanding State Budget debt accompanied the monetary reform. The 1938 issue of 3% state lottery bonds (the "market" bond) was exchanged in December, 1947, at an adverse rate of five rubles to one in face value, and the date of maturity was set forward twenty years. In February, 1948, all outstanding mass subscription bonds, with the sole exception of the 1947 issue, were converted in face value at an adverse rate of three rubles to one. Lottery premium rates were reduced to 2%, and maturities were extended to twenty years. These conversions reduced government non-monetary debt to approximately one-third the pre-conversion level, and debt service charges were reduced even more substantially for the immediately ensuing years.[26]

The adverse effect of the conversions of 1947 and 1948 were offset to a considerable extent by a series of subsequent reductions in state retail prices. The retail price index for all comodities (1947 = 100) fell to 50 in 1952, and to 43 by April of 1954. This represented a sharp change in price trends, for prices had risen at an average rate of 14% per annum between 1928 and 1947.[27] The trend reversal, of course, had a favorable effect upon expected rates of return on bond issues of the late 1940s and early 1950s. Issue sizes for mass subscription bonds were increased substantially for 1951 and 1952 with no reduction in the nominal rate of return (4%). The struggle for succession among Stalin's heirs may have been reflected in the sharp reduction in issue sizes for 1953 and 1954. However, the reduction doubtless also was a response to the rising cost of bond financing, and the lottery premium rate was indeed reduced from 4 to 3%. In 1955 and 1956 the State Budget returned to the issue levels of the early 1950s, and the lottery premium was further reduced to 2% (with retail prices essentially constant). The reduction was accomplished by reducing the proportion of winning certificates to 25%, the elimination of the largest winnings category and a change in retirement schedules.[28]

In April, 1957, an official joint decree of the Communist Party

and the Council of Ministers announced the termination of mass subscription bonds after 1957. It was also announced that the State Budget would henceforth cease to conduct premium lotteries for all outstanding mass subscription bonds. In effect, expected rates of return were taxed away. Moreover, annual retirement lotteries scheduled for the 25.8 billion rubles in outstanding mass subscription bonds were postponed for a twenty-year period.[29] This was, then, a final and drastic conversion of state debt and the third in little more than twenty years (1936, 1948 and 1957). The 3% state lottery bond (of 1947) was not affected by these rulings.

A final and relatively small (1.5 billion rubles) mass subscription bond issue was floated in May, 1957. It promised a 2% lottery premium rate for a term of five years. This issue was designed to smooth the transition for the State Budget, for its receipts had already been fixed by the 1957 plan. By implication, the decision to terminate mass subscription bond issues was taken quickly. It is interesting to note that organizers of the subscription campaign of 1957 were instructed that individual subscriptions were not to exceed two weeks pay and that the bonds were not to be sold to those with incomes of less then fifty rubles per month.

According to the original decree, the retirement of pre-1957 subscription bonds was scheduled to begin in 1977 and to extend through 1996. However, in May, 1971, Leonin Brezhnev announced at the XXIV Party Congress a plan for "early" retirement of outstanding bonds.

Retirement is now scheduled to begin in 1974 and to be completed in 1990. It calls for the retirement each year of 1.0 billion rubles 1974-1975, of 1.2 billion 1976-1980, of 1.5 billion 1981-1985, of 2.0 billion 1986-1989, and of 2.3 billion in 1990.[30] Presumably, a lottery will be utilized to determine the order of retirements.

In November, 1967, the last lottery was held to determine winners in the 3% state lottery bond issue of 1947. Meanwhile, a new 3% lottery bond had been issued in July, 1966, which was sold "somewhat" above face value. However, holders of the 1947 bond (i.e., non-winners) were permitted to exchange them without penalty (at face value) for the new issue, and 90% were reportedly so exchanged. On January 1, 1972, the total stock of 3% state lottery bonds (1966 issue) outstanding stood at 2.9 billion rubles.[31] Since these bonds may be freely bought or sold at any time at state savings bank outlets, it is clear that there are risk-seekers among the Soviet population to whom the lottery principle is appealing. The expected rate of return on 3% lottery bonds is considerably less than the 3% per annum rate guaranteed on long-term savings accounts. (Savings account deposits totaled 53.2 billion rubles on January 1, 1972.[32])

II. Structure and Characteristics of Post-War Soviet Bond Issues[33]

The basic building block of all Soviet bond issues is the razriad, which may be best translated in this context as "sub-series" or "order." For all post-war mass subscription issues, except the 1948 conversion issue, this basic unit was one-million, ten-ruble bond certificates, or ten million rubles face value. Thus, the 3.79 billion ruble issue subscribed in 1952 was composed of 379 orders (razriadi). The 1948 conversion issue was composed of orders of 2.5 million twenty-ruble certificates (50 million rubles per razriad). The razriad is the basic unit for each issue because winnings and the order of retirement (i.e., the expected rate of return) are fixed in terms of it.

For all post-war mass subscription bonds, lotteries were held twice a year to determine winning certificates, and the number of winning certificates was fixed per razriad for each of the forty semi-annual lotteries. Winning certificates were retired, and the stated value of winnings included the face value of the bond. Thus a certain, pre-established fraction of each issue was retired each year in this way (see Table 2). With the exception of the issues for 1955 through 1957, the size of total annual winnings and the number of certificates retired in this way declined by a small amount in the eleventh and sixteenth year of the twenty-year nominal term. This was effected by reducing the number of twenty-ruble prizes (i.e., a ten-ruble return on a ten-ruble bond).

Each post-war mass subscription bond issue also featured a second

Table 2: A reconstruction of winnings and retirement schedules, Soviet domestic bonds, 1948-56.

millions (1960) rubles

Winnings & Retirement	%	Year 1948	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	Total	% retired	Tot thr 19[illegible]
1947	4%	65	65	65	65	65	65	65	65	65	65	64	64	64	64	64	63	63	63	63	63											1,285		
	Ret.	40	40	40	40	40	38	38	38	38	38	37	37	37	37	37	36	36	36	36	36											755	33%	3[illegible]
1948	2%		41	41	41	41	41	41	41	41	41	41	40	40	40	40	40	40	40	40	40	40										810		
	Ret.		29	29	29	29	29	28	28	28	28	28	28	28	28	28	28	27	27	27	27	27										560	20%	2.[illegible]
1948	2%		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	2	1	1										71		
1948	4%		66	66	66	66	66	65	65	65	65	65	64	64	64	64	64	63	63	63	63	63										1,290		
	Ret.		40	40	40	40	40	39	39	39	39	39	37	37	37	37	37	36	36	36	36	36										760	33%	3[illegible]
1949	4%			70	70	70	70	70	69	69	69	69	69	67	67	67	67	67	67	67	67	67	67									1,365		
	Ret.			42	42	42	42	42	41	41	41	41	41	40	40	40	40	40	38	38	38	38	38									805	33%	3[illegible]
1950	4%				78	78	78	78	78	76	76	76	76	76	75	75	75	75	75	74	74	74	74	74								1,515		
	Ret.				50	50	50	50	50	49	49	49	49	49	48	48	48	48	48	46	46	46	46	46								965	35%	34[illegible]
1951	4%					99	99	99	99	99	96	96	96	96	96	95	95	95	95	95	94	94	94	94	94							1,920		
	Ret.					63	63	63	63	63	62	62	62	62	62	60	60	60	60	60	58	58	58	58	58							1,215	35%	3[illegible]
1952	4%						107	107	107	107	107	104	104	104	104	104	103	103	103	103	103	101	101	101	101	101						2,075		
	Ret.						69	69	69	69	69	68	68	68	68	68	66	66	66	66	66	64	64	64	64	64						1,335	35%	3[illegible]
1953	3%							36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36	36					720		
	Ret.							28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28					560	35%	1[illegible]
1954	3%								40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40				800		
	Ret.								31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31				620	35%	[illegible]
1955	2%									53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53			1,060		
	Ret.									43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43			860	25%	[illegible]
1956	2%										52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52	52		1,040		
	Ret.										43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43		860	25%	4[illegible]
Sub-Total		105	285	397	525	687	861	922	991	1,084	1,175	1,169	1,165	1,162	1,160	1,157	1,152	1,149	1,146	1,142	1,138	1,035	868	763	643	491	326	262	191	95				2,73[illegible]
Retirement lottery	Total issue [c]																																	
1947	2,290						57	57	57	57	57	57	96	96	96	96	96	142	142	142	142	142										1,532	67%	28[illegible]
1948	2,800							56	56	56	56	56	56	146	146	146	146	146	235	235	235	235	235									2,241	80%	2[illegible]
1948	180																		36	36	36	36	36										100%	
1948	2,300							58	58	58	58	58	58	97	97	97	97	97	143	143	143	143	143									1,548	67%	23[illegible]
1949	2.440								61	61	61	61	61	61	102	102	102	102	102	151	151	151	151	151								1,631	67%	18[illegible]
1950	2,760									69	69	69	69	69	69	121	121	121	121	121	155	155	155	155	155							1,794	65%	1[illegible]
1951	3,480										87	87	87	87	87	87	153	153	153	153	153	195	195	195	195	195						2,262	65%	8[illegible]
1952	3,790											95	95	95	95	95	95	167	167	167	167	167	212	212	212	212	212					2,465	65%	-
1953	1,590												16	16	16	16	16	16	30	30	30	30	30	158	158	158	158	158				1,036	65%	-
1954	1,780													18	18	18	18	18	18	34	34	34	34	34	176	176	176	176	176			1,158	65%	-
1955	3,470														43	43	43	43	43	43	104	104	104	104	104	364	364	364	364	364		2,598	75%	-
1956	3,430															43	43	43	43	43	43	103	103	103	103	103	360	360	360	360	360	2,573	75%	-
Sub-Total	30,310						57	171	232	301	388	483	538	685	769	864	930	1,002	1,186	1,251	1,346	1,448	1,351	1,112	1,103	1,208	1,270	1,058	900	724	360			1,14[illegible]
Grand Total		105	285	397	525	687	918	1,093	1,223	1,385	1,563	1,652	1,703	1,847	1,929	2,024	2,082	2,151	2,332	2,393	2,484	2,483	2,219	1,875	1,746	1,699	1,596	1,320	1,091	819	720			

Balance outstanding 1957 26,42[illegible]

Table 2

Notes:

a. See text for an explanation of premium rates.

b. The actual balance outstanding was 25,930 million rubles, which indicates that the reconstruction presented here is reasonably accurate. This figure comes from: A. G. Zverev, Gosudarstvennye zaimy i vklady v sberegatel'nye kassy (Leningrad: Gosfinizdat, 1957), p. 23.

c. Actual subscription total.

Sources:

L. B. Valler, "Razvitie gosudarstvennogo kredita v SSSR," M. A. Nadis and A. I. Iagodinskii, "Osnovnye usloviia i struktura gosudarstvennykh zaimov," and the Addendum, all in P. Ia. Dmitrichev, ed., Gosudarstvennye zaimy v SSSR (Moscow: Gosfinizdat, 1956), pp. 20-43, 44-63 and 152-157 respectively.

lottery to determine the order in which non-winning certificates were to be retired during the nominal term of the issue. The retirement lottery was scheduled to be held once-a-year beginning in the sixth year from date of issue. The fraction of bonds retired per razriad by the retirement lottery increased in the twelfth and seventeenth years of the issue (Table 2). Certificates not retired by either "winning" or "retirement" lotteries over the twenty-year course of the issue could be redeemed at face value from state savings bank outlets during the twenty-first year (only).

Although all post-war bond issues were for a nominal twenty-year term, the effective term was considerably less as a result of the two retirement mechanisms described above. It was Soviet practice to calculate the "average term" as the effective number of years that the funds made available by each issue remained at the disposal of the State Budget. "Average term" was calculated in the following manner. The face value of bonds retired in each of the forty winning lotteries was multiplied by the number of years from the original date of issue that each lottery was held. Bonds retired in the straight retirement lotteries, which began in the sixth year of the loan, were treated in the same fashion. The sum of these two calculations was then divided by the face value of the total actual issue, yielding the average term in years. For example, the funds made available to the State Budget by the 1952 mass subscription bond issue for a nominal twenty-year term, were equivalent to a hypothetical loan for the same total ruble amount for a period of 12.6 years, absence interim retirements. Examination of the time shapes of bond retirement

schedules for the post-war years (Table 2) shows an extension in average terms brought about by bunching retirements via the retirement lottery in the later years.

The stated premium rate on all post-war (and presumably earlier straight lottery bonds) was determined on the basis of the average term computation. As mentioned earlier, the 4% lottery premium rate officially announced for the 1952 issue, for example, did not represent the expected rate of return. It is obtained instead by dividing the total winnings scheduled for the issue over its twenty-year nominal term by the average term, which yields the average annual payout. Dividing through by the actual issue ruble volume (times 100) yields the "average annual" interest cost to the State Budget, or a little in excess of 4% for the 1952 issue. This number is obviously considerably in excess of the true expected rate of return on the 1952 issue. It is easy to see why earlier students of the Soviet economy overestimated expected rates of return on Soviet bond issues, for they were apparently unaware of the difference between nominal and average terms.[34]

Computation of the true expected rate of return to Soviet bond holders, in conformity with Western practice, is, of course, rather complicated. This is a topic in itself,[35] so let me indicate here only the general outline of what is involved and of the outcome. First, only a certain fraction of bonds stood to be drawn in the winning lotteries over the nominal term of the loan (Table 2). A purchaser, for example, of a ten-ruble 1952 certificate had a 0.35 chance of "winning" anything at all. There was a very small probability that he would win the largest

prize available (2,500 rubles, less the ten-ruble nominal value of his certificate) in the first winning lottery,which was scheduled approximately six months following fulfillment of his subscription. In this instance, of course, the rate of return is astronomical. In fact, the rate of return obtained by all winning bond holders over the twenty-year nominal term was relatively high, for the smallest winning was ten rubles on a ten-ruble certificate in the fortieth lottery at the end of the twentieth year. However, there was, correspondingly, a 0.65 chance of recovering nothing more than the face value of the bond (barring conversions, postponements, etc.), and this might occur as late as the twenty-one years from the date of purchase. Thus the expected rate of return for any Soviet post-war mass subscription bond depends upon the opportunity rate of return that is selected to compute the negative rate of return on non-winning bonds. Even if one uses as an opportunity rate of return the rate offered by the state savings bank system on long-term deposits, i.e., 3% for the latter part of this period, the expected rate of return that emerges is very low.

Downward adjustments in the reported premium rate on post-war mass subscription bonds (see Table 1, Column 20) were effected by reducing the proportion of winning bonds per razriad and by eliminating large lottery prizes. Consequently, the decline in the stated premium rate reflects, but does not measure, a decrease in expected rate of return. Differential rates of inflation and the historical frequency of adverse bond conversions ought also to be taken into account in determining expected rates of return to bond purchasers. Only the first and the last mass subscription bond issues (February, 1927 and May, 1957 respectively) escaped conversion.

The only domestic bond in circulation in the Soviet Union today is the twenty-year term, 3% state lottery bond of 1966. All terms and conditions of its predecessor, the December, 1947 conversion issue, were faithfully executed. The 1947 issue called for six "basic" winnings lotteries per year, with a top premium of 5,000 rubles on a twenty-ruble certificate, and for an annual supplementary lottery with a top prize of 10,000 rubles. The 3% lottery bond could be purchased or sold at any time at state savings bank outlets, and all outstanding certificates participated in all "basic" annual lotteries. The annual supplementary lottery was restricted to bonds held at least nine months, as an incentive to long-term lending. Winning certificates were retired, so a certain fraction of the issue was retired each year. For the 1947 issue, 25% of all bonds sold was scheduled to be retired over the nominal twenty-year course of the issue. Non-winning certificates could be redeemed at any time, but in no case later than 1 January 1970. The 3% premium return was calculated as described above for mass subscription issues. However, as the 3% state lottery bond had no provisions for a straight retirement lottery (i.e., in addition to the winning lotteries), the expected rate of return was considerably less than for mass subscription issues. The difference reflected, then,an implicit liquidity premium.

A new 3% state lottery bond was offered for sale beginning in July, 1966. It was similar to the 1947 issue in that it was also a nominal twenty-year bond and could be freely bought and sold at any time at state savings bank outlets. However, the 1966 issue is sold "somewhat" above

face value and repurchased only at face value. Holders of outstanding (non-winning) 1947 bonds were permitted to exchange them for the new issue at face value (between December 1, 1967 and June 1, 1968 only), and, reportedly, 90% of the 1.3 billion rubles worth of bonds outstanding in November, 1967, were so exchanged.[36]

The 1966 issue differed somewhat from the 1947 in certain other provisions. The supplementary lottery was abolished (and with it the largest prize of 10,000 rubles), and the number of "basic" lotteries was increased to eight per year. By rearranging the number of prizes, the fraction of certificates scheduled to win anything at all was increased from 25 to 30%. Ten and twenty ruble bonds are available, but winnings are calculated on twenty-ruble certificates, i.e., the ten-ruble certificate is half a bond.

The expected rate of return on 1966 3% state lottery bonds depends, of course, upon the opportunity return that is utilized to calculate the (negative) rate of return on non-winning bonds. Presumably, the lowest savings bank rate (2%) (on what are essentially demand deposits) is appropriate in this instance since these are readily marketable bonds. Given this assumption, the expected rate of return on 3% state lottery bonds is less than 1%.[37]

III. An Analysis of Soviet Domestic Bond Policy

The development of the mass subscription bond at the end of the 1920s provided the State Budget with what proved to be a very effective device for raising funds from the population during rapid industrialization,

the war and post-war reconstruction. During these years the sale of domestic bonds to the population ordinarily raised as much or more than was obtained by direct personal income taxes. The organization of bond subscription committees at the grass roots level in all enterprises and institutions and the linking of bond promotion with major social and economic objectives effectively removed bond sales from the marketplace into an arena in which considerable "moral" pressure could be applied to potential subscribers. Moreover, installment purchase helped to minimize the immediate financial impact of bond subscription, and payroll deduction afforded an efficient means of enforcing timely payment.[38]

The extensive utilization of lottery devices may be explained as the outcome of several related factors. From the late 1920s onward the population offered the only source of private saving. Apart from the collective farms and certain (private) productive artels, productive enterprises were publically owned, and other, non-financial devices had been developed to monitor and control enterprise cash balances and to transfer enterprise retained earnings to the State Budget. The principal target of domestic bond sales was, therefore, the population, for it alone owned discretionary cash balances. In non-socialist countries, where the financial system is likely to be dominated instead by private financial and non-financial enterprises, extensive use of lottery bond instruments would, of course, be much less likely.

Both practical experience elsewhere and theory suggest that lottery devices may offer very successful means of tapping household savings.[39]

Soviet experience is interesting in this respect, because the shift away from the "all-win" principle in the early 1940s was explained as reflecting the population's preference for taking larger gambles (i.e., a smaller chance of winning a larger prize). Lotteries, of course, provide entertainment as well as the chance to make a killing, and the large number of winning lotteries that were ordinarily held each year provided considerable action. During 1955, for example, some eighteen winning lotteries were held on subscription bonds and seven for 3% state lottery bonds. The sheer number of lotteries held in any given year may also have tended to exaggerate the likelihood of winning.

The history of Soviet domestic bond policy suggests an overweaning official concern about service charges on outstanding debt. Steps were repeatedly taken to minimize and/or to reduce these charges outright. The conversions of 1936, 1938, 1947, 1948 and 1957 were undertaken mainly for this reason, as was the systematic reduction in expected rates of return from 1929 onward. Extensive exploitation of lottery devices should be viewed in this light as well, for the determination of the expected rate of return on any given Soviet lottery bond is impossible in the absence of a complete description of the time shapes of winnings and retirement.

The available data on bond receipts, debt service charges and net funds raised by domestic bond financing, 1940-1970, are presented in Table 3. That mass subscription bond sales dominated State Budget bond proceeds is obvious from an examination of Rows D and E.

Table 3: Bond proceeds and service charges, 1940-1966

(Billions of 1960 rubles)

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966
A. Gross proceeds State Budget	18.00	17.70	16.50	20.40	26.90	30.20	32.50	38.60	41.10	43.70	42.30	47.00	49.80	54.00	55.90	56.40	58.60	62.70	67.20	74.00	77.10	78.10	84.30	89.50	94.40	102.30	106.3
B. Gross bond proceeds	1.15	1.15	1.53	2.55	3.26	2.90	2.47	2.57	2.39	2.76	3.10	3.68	4.26	3.04	2.65	3.68	4.43	3.53	1.06	1.49	0.91	0.80	1.17	1.31	0.11	0.18	0.22
C. B as % A	6	6	9	13	12	10	8	7	6	6	7	8	9	6	5	7	8	6	2	2	1	1	1	1	-	-	-
D. Gross proceeds subscription bonds	0.90	0.83	1.22	1.79	2.6[illegible]	2.31	2.06	1.90	NA	NA	2.64	3.26	3.60	1.73	1.62	3.02	3.28	1.85	0.32[a]	-	-	-	-	-	-	-	-
E. D as % B	78	72	80	70	81	71	83	74	-	-	85	89	85	57	61	82	74	52	30								
F. Proceeds 3% lottery bond	0.02	NA	NA	NA	NA	NA	0.04	0.02	0.04	0.06	0.06	0.06	0.06	0.09	0.11	0.12	0.14	0.07	0.08	0.16	0.06	0.04	0.06	0.07	0.11	0.18	0.22
G. Other bond proceeds[b] B-(D+F)	0.23	-	-	-	-	-	0.37	0.65	-	-	0.40	0.36	0.60	1.22	0.99	0.54	1.00	1.61	0.66	1.33	0.85	0.76	1.11	1.24	-[c]	-	-
H. Debt service charges (all)	0.28	0.34	NA	NA	NA	NA	NA	NA	NA	NA	0.51	0.68	0.90	1.17	NA	1.43	1.63	1.80	0.37	0.70	0.70	0.80	0.80	0.10	0.10	0.10	0.10
I. H as % B	24	30	-	-	-	-	-	-	-	-	16	18	21	38	-	39	37	51	35	47	77	100	68	8	9	56	45
J. Debt service charges subscription bonds only	0.12	0.16	0.18	0.21	0.28	0.39	0.39	0.53	0.14	0.25	0.37	0.49	0.68	0.97	1.02	1.20	1.39	1.60	NA	NA	NA	NA	NA	-	-	-	-
K. J as % D	13	19	15	12	11	17	19	28	-	-	14	15	19	56	64	40	42	87	-	-	-	-	-				
L. Net funds raised (all)(B-H)	0.87	0.81	-	-	-	-	-	-	-	-	2.59	3.00	3.36	1.87	-	2.25	2.80	1.73	0.69	0.79	0.21	0.0	0.37	1.21[d]	0.01	0.08	0.12
M. Net funds raised subscription bonds only (D-J)	0.78	0.67	1.04	1.58	2.35	1.92	1.67	1.37	-	-	2.27	2.77	2.92	0.76	0.60	1.82	1.89	0.25	-	-	-	-	-	-	-	-	-

Notes:

a. Terminated after 1957. The 1958 proceeds reflect the fulfillment of bond subscriptions contracted in 1957.

b. Includes, principally, bond purchases by the State Savings Bank, the social insurance system and, for the war years, collective farms and non-state productive artels. All proceeds from these sources were transfered from the State Budget to the State Bank after 1963.

c. All bond transactions transfered to the State Bank after 1963.

d. The increase in this year reflects the fact that the 1957 subscription bond issue was retired in full by the end of 1962.

Table 3

Sources:

Row A

1940-46, 1950: V. P. D'iachenko, "Sovetskia sistema finansov i kredita v bor'be za sotsialisticheskoe pereustroistvo ekonomiki i postroenie kommunizma v SSSR," in L. M. Gatovskii, ed., Sovetskia sotsialisticheskaia ekonomika 1917-1957 gg. (Moscow: 1957), pp. 581, 586.

1947-49, 1951-53: Franklyn D. Holzman, Soviet Taxation (Cambridge: Harvard University, 1955), p. 222.

1955, 1960-65: Gosudarstvennye biudzhet SSSR i biudzhety soiuznykh respublik (Moscow: Izdat. Finansy, 1966), p. 10.

1956-59: Gosudarstvennye biudzhet SSSR i biudzhety soiuznykh respublik (Moscow: Gosfinizdat, 1962), p. 7.

1966: Gosudarstvennye biudzhet SSSR i biudzhety soiuznykh respublik 1966-1970 gg. (Moscow: Izdat. Finansy, 1972), p. 11.

Row B

1940-46: D'iachenko, "Sovetskaia sistema finansov," pp. 581, 586.

1947-1952: Holzman, Soviet Taxation, p. 222.

1953-54: Gosudarstvennye biudzhety soiuznykh respublik v piatoi piatiletke (Moscow: Gosfinizdat, 1957), p. 5.

1955-1960: Gosudarstvennye biudzhet SSSR (1962), p. 9.

1961-65: Gosudarstvennye biudzhet SSSR (1966), p. 11.

1966: Gosudarstvennye biudzhet SSSR (1972), p. 12.

Row D

1940-45: K. N. Plotnikov, Ocherki istorii biudzheta sovetskogo gosudarstva (Moscow: Gosfinizdat, 1954), p. 316.

1946-47: A. Zverev, "Sovetskie finansy i stroitel'sto sotsializma v SSSR," in Finansy SSSR za XXX let (Moscow: Gosfinizdat, 1947), p. 76.

1950, 1955-58: Gosudarstvennye biudzhet SSSR (1962), p. 9.

1951, 1954: Gosudarstvennye biudzhety (1957), p. 5.

1952: Narodnoe khoziaistvo SSSR v 1962 godu (Moscow: Gosstatizdat, 1963), p. 635.

1953: Narodnoe khoziaistvo SSSR v 1958 godu (Moscow: Gosstatizdat, 1959), p. 899.

Row F

1940, 1950, 1955-60: Gosudarstvennye biudzhet SSSR (1962), p. 9.

1946-1954: A. G. Zverev, Gosudarstvennye zaimy i vklady v sberegatel'nye kassy (Leningrad: Gosfinizdat, 1957), p. 36, and Plotnikov, Ocherki istorii biudzheta, p. 399, who gives the total for 1946-1950.

1961-65: Gosudarstvennye biudzhet SSSR (1966), p. 11.

1966: Gosudarstvennye biudzhet SSSR (1972), p. 12.

Row H

1940, 1950, 1953, 1955-56, 1958: Narodnoe khoziaistvo (1958), p. 900.

1941: R. W. Davies, The Development of the Soviet Budgetary System (Cambridge: The University, 1958), p. 296.

1951: Plotnikov, Ocherki istorii biudzheta, p. 488

1952, 1959, 1961-62: Narodnoe khoziaistvo (1962), p. 635.

1957: (Plan) A. G. Zverev, "Finansy SSSR za 40 let sovetskoi vlasti," in N. Laptev, ed., Finansy i sotsialisticheskoe st oitel'stvo (Moscow: Gosfinizdat, 1957), p. 77

1960, 1965: Narodnoe khoziaistvo SSSR v 1969 g. (Moscow: Izdat. Statistika, 1970), p. 769.

1963-64: Narodnoe khoziaistvo SSSR v 1964 (Moscow: Izdat. Statistika, 1965), p. 770.

1966: Narodnoe khoziaistvo SSSR v 1968 (Moscow: Izdat, Statistika, 1969), p. 774.

Row J

1940-1953: Plotnikov, Ocherki istorii biudzheta, pp. 317, 488.

1946-1956: Zverev, Gosudarstvennye zaimy i vklady, p. 25.

1957: (Plan) Zverev, "Finansy SSSR za 40 let," p. 77.

Debt service charges on mass subscription debt absorbed a little more than 40% of proceeds from new subscriptions in 1955 and 1956 (Table 3, Row K), and net proceeds from all bond sales had declined to between 4-5% of State Budget receipts in these years (Rows A and L). Debt service charges on mass subscription bonds issued prior to 1957 were scheduled to rise from 1.39 billion rubles in 1956 (Row L) to a peak of approximately 2.5 billion in 1967-68 (see estimate in Table 2). Had issues continued after 1957, at the 1956 level, service charges would have climbed to 2.5 billion rubles by 1962 instead.

The official reasons given for terminating mass subscription bond campaigns were (1) the growth of debt service charges and (2) the undesirability of increasing annual issue amounts beyond the 3.5 billion ruble level of 1955 and 1956:[40]

> If the issue of bonds continues in larger volume than, for example, in 1956, this would be burdensome to the population. But if bonds are issued in smaller volume, then it (bond proceeds) would almost entirely be absorbed by winnings and retirement of outstanding issues.

This explanation assumes that the population regarded bond subscriptions in large part as simply a tax, which the very low rates of return on recent issues certainly justified. The first sentence implies official unwillingness to make new subscription bond issues more attractive by increasing the rate of return promised, and, in any case, the increase required would certainly have been very substantial. The second sentence, if it means anything economic at all, implies an official preference with respect to the redistributive consequences of financing forthcoming debt service charges by means of new issues. Faithful fulfillment of the terms and conditions under which the outstanding debt had been floated would have entailed either a redistribution of income within the household sector in

favor of existing bond holders or a transfer of command over real resources from the State Budget to existing bond holders. It would not have mattered in the first instance whether this was effected by additional bond sales or by some form of direct taxation, and, therefore, the official explanation does not really address the question of why it was decided to abandon subscription bond sales. It does suggest, however, official unwillingness to permit a redistribution of income in favor of existing bondholders at the expense of either current earned personal income or of other budget outlays.

The decision to default on outstanding bonds cannot be interpreted as somehow "deflationary" in the long run,[41] unless the very improbable assumption is made that the State Budget would otherwise have financed debt service and retirements by means of State Bank overdrafts, i.e., by "printing" money. Historically, the State Budget had had recourse to overdraft finance only in times of dire emergency since the early 1920s, as, for example, during the early years of WWII.[42]

The 1957 conversion was accompanied by the promise that mass subscription bonds would not be issued in the future. Consequently, the net effect was not disadvantageous for all bond holders. In exchange for foregoing the opportunity to participate in winning lotteries (i.e., the expectation of a possible positive return) and a twenty-year delay in redemption dates for bonds previously purchased, the population was promised relief from future bond subscriptions. The recommended subscription in 1956 was three to four weeks pay, and installment payments during that year totaled 3.28 billion rubles (Table 3, Row D). The flow of debt service payments to the population on mass subscription bonds only was 1.39 billion rubles in 1956 and 1.60 billion in 1957 (Row J). Thus the

complete abandonment of subscription bonds would have yielded a net gain of at least 1.7 billion rubles in current income to the population as a whole. The final 1957 issue reduced the actual gain to about 1.0 billion rubles in 1958.

Of course, only certain members of the population stood to "gain" in this way. The 1957 reform was particularly disadvantageous to the older members of the population who would have held a disproportionate share of outstanding bonds and a much smaller chance of surviving the "freeze." Holzman, in fact, interpreted the reform as an attempt by Khrushchev to gain the support of the young.[43] Perhaps this was in part the case, but the reform also effected a redistribution disadvantageous to higher income classes as well since bond sales had been based upon a progressive scale (i.e., the purchase of a fixed number of week's earnings). Thus the 1957 reform produced an increase in disposable income, a reduction in the flow of unearned income relative to earned income, and an intergenerational and inter-income class redistribution of income. Morris Bornstein may, therefore, have been correct in interpreting the reform as having "a favorable effect (from the standpoint of the regime) on worker incentives."[44] It should be noted, though, that previous bond conversions would have had the same effect in some degree.

Franklyn Holzman has put forward another reason to explain the abandonment of mass subscription bonds. Indeed, he predicted in 1955 an early termination of new issues on the basis of an estimate of the "tax burden" of these bonds.[45] This would seem to have been a case, unfortunately, of being right for the wrong reasons, for Holzman's prediction was founded on the mistaken assumption that state retail prices would continue to fall after 1954. For somewhat technical reasons, Holzman also underestimated the tax burden as of 1954.[46]

There can be little question that the tax burden of subscription bonds decreased between 1947 and 1954, as the state retail price level was reduced by more than one-half, but the downward trend ended in 1954. Also, the bond lottery premium was reduced from 4 to 3% in 1952 and again from 3 to 2% in 1955, and these reductions at least partially offset the favorable effect of earlier price declines upon expected rates of return. By 1957, the tax burden of mass subscription bonds had stabilized at a relatively high rate, even if the state savings bank rate is utilized rather than Holzman's hypothetical "market" rate. Thus the tax burden argument cannot provide the impetus to the 1957 reform.

Instead, the decision to abolish bond subscriptions should be interpreted mainly as a decision to decrease taxes on the population, since the bond was in large part merely a tax. The decision to cease paying lottery premiums and to freeze outstanding bonds represented a decision to substitute a new tax to compensate partially for the loss of bond subscription revenue. But the net effect was to decrease taxes on the population, and this effect was augmented by a reduction in personal income tax rates in 1958.[47] To the extent that reduced taxation was reflected in a relative decline in State Budget outlays, the net effect was to transfer purchasing power to the household sector, and to do so in such a way that, in the long run, it benefited primarily the young and the lower-income classes.[48]

Ironically, to the extent that members of the population were prepared to save some portion of the income released by the tax burden of subscription bonds, the 1957 reform reflected a decision by the State Budget <u>to tax less and to borrow more</u>, by virtue of the state's monopoly on all financial channels. In other words, the population was free to

allocate some portion of its increase in disposable income among the various financial channels available, and savings accounts had always offered a higher rate of return, much greater liquidity and, historically, a considerably smaller risk of confiscation. Moreover, for those inclined to gamble, the 3% state lottery bond, a special type of "lottery premium" savings account and various straight lotteries remained available.

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Notes

1. Brief descriptions of domestic bond policy may be found in the standard reference works on the Soviet State Budget: Franklyn D. Holzman, Soviet Taxation (Cambridge: Harvard University, 1955) and R. W. Davies, The Development of the Soviet Budgetary System (Cambridge: University Press, 1958). Passing reference to state bonds may also be found in Alec Nove, An Economic History of the U.S.S.R. (Pelican Books, 1972) and Maurice Dobb, Soviet Economic Development Since 1917 (New York: International Publishers, 1966). See also, Franklyn D. Holzman, "An Estimate of the Tax Element in Soviet Bonds," American Economic Review, XLVII (June 1957), 390-396, which represents the only attempt that has been made to determine the expected rate of return on Soviet domestic bonds. Unfortunately, these sources are not only brief, but inaccurate in certain respects.

2. Official Soviet sources report a budget surplus for all years since 1928-1929, except for 1941, 1942 and 1943. However, these reports are based upon the cash-flow budget, which includes the flow of funds through financial channels to the State Budget. According to Western convention, the Soviet State Budget was rarely in surplus until very recent times. See Holzman, Soviet Taxation, pp. 228-230.

3. For a description of the alternatives utilized during the early war years see James R. Millar, "The Soviet War Budget," Soviet Studies (forthcoming).

4. L. B. Valler, "Razvitie gosudarstvennogo kredita v SSSR," in P. Ia. Dmitrichev, ed., Gosudarstvennye zaimy v SSSR (Moscow: Gosfinizdat, 1956), p. 27; Holzman, Soviet Taxation, p. 217 (Table 47); Table 3 in the text below.

5. Iu. M. Belugin, "Razvitie sberegatel'nykh kass SSSR," in P. A. Chetverikov, ed., Sberegatel'nye kassy SSSR za 50 let (Moscow: Izdat. Finansy, 1972), pp. 24-25.

6. For an analysis of non-socialist budgets see Harley H. Hinrichs, A General Theory of Tax Structure Change During Economic Development (Cambridge: Harvard Law School, 1966).

7. Table 1 omits certain domestic bond issues by agencies and organizations other than the State Budget. Between 1923 and 1934 some nineteen bond issues were floated by various komissariats, trusts and societies, including one by the Moscow ispolcom. For a brief description of these issues see V. P. D'iachenko et al., eds., Finansovo-kreditnyi slovar' (Moscow: Gosfinizdat, 1961), t. I, pp. 304-305.

8. Almost all Soviet bonds provided for the retirement of a certain fraction of the outstanding issue in each year of the stated term. Terms to maturity given in Table 1 are maximums and thus overstate effective terms, as is explained in the text below. The trend in maximum terms, in fact, understates somewhat that for effective terms.

9. Valler, "Razvitie gosudarstvennogo kredita," p. 24.

10. This acronym refers to the middlemen who were permitted to operate during the period of the New Economic Policy of the 1920s.

11. *Ibid.*

12. *Ibid.*

13. Davies, *The Development of the Soviet Budgetary System*, pp. 227-228. For a thorough discussion of bank controls, see Christine Netishen Wollan, *The Financial Policy of the Soviet State Bank, 1932-1970* (Unpublished Ph.D. dissertation, University of Illinois at Urbana-Champaign, 1972), pp. 156-184.

14. For a brief description of lottery, or premium, bonds in the Brittish Isles, see Harvey E. Fisk, *English Public Finance From the Revolution of 1688* (New York: Bankers Trust Company, 1920), pp. 108-115. For more extended treatment, see C. L'Estrange Ewen, *Lotteries and Sweepstakes* (London: Heath Cranton Ltd., 1932).

15. A. A. Gerasimov, "Organizatsiia razmeshcheniia gosudarstvennykh zaimov," in P. Ia. Dmitrichev, ed., *Gosudarstvennye zaimy v SSSR* (Moscow: Gosfinizdat, 1956), pp. 74-86.

16. Compare official issue amounts as given in D'iachenko *et al.*, eds. *Finansov-kreditnyi slovar'*, pp. 301-304, with actual subscription totals as given by Valler, "Razvitie gosudarstvennogo kredita," pp. 27-43.

17. D'iachenko *et al.*, eds., *Finansovo-kreditnyi slovar'*, p. 300; M. Iu. Nakhmanovich, "Gosudarstvennye zaimy SSSR i ikh rol' na razlichnykh etapakh razvitiia narodnogo khoziaistva. Gosudarstvennye zaimy i denezhno-veshchevye loterei v sovremennykh usloviiakh," in P. A. Chetverikov, *Sberegatel'nye kassy SSSR za 50 let* (Moscow: Izdat, Finansy, 1972), p. 46.

18. Valler, "Razvitie gosudarstvennogo kredita," pp. 30-31.

19. *Ibid.*, p. 31; Nakhmanovich, "Gosudarstvennye zaimy SSSR," pp. 47-48.

20. Valler, "Razvitie gosudarstvennogo kredita," pp. 30-31.

21. G. Eremeeva, *Razvitie sberegatel'nogo dela v SSSR* (Moscow: Gosfinizdat, 1958), p. 63.

22. Valler, "Razvitie gosudarstvennogo kredita," p. 35.

23. *Ibid.*

24. See Table 2 below.

25. M. L. Tamarchenko, *Sovetskie finansy v period Velikoi Otechestvennoi voiny* (Moscow: Izdat. Finansy, 1967), p. 40.

26. Valler, "Razvitie gosudarstvennogo kredita," pp. 36-39.

27. A.N. Malafeev, *Istoriia tsenoobrazovaniia v SSSR, 1917-1963*, (Moscow: Izdat. "Mysl'", 1964), p. 405.

28. See Table 2 below.

29. A. G. Zverev, *Gosudarstvennye zaimy i vklady v sberegatel'nye kassy* (Leningrad: Gosfinizdat, 1957), pp. 27-28. Note that all ruble figures given here and elsewhere are in "new" rubles, i.e., the decimal was moved one place to the left in 1960.

30. M. Iu. Nakhmanovich, "Gosudarstvennye zaimy SSSR," p. 52.

31. *Ibid.* pp. 52-54

32. Tsentral'noe statisticheskoe upravlenie. *Narodnoe khoziaistvo SSSR, 1922-1972 gg.* (Moscow: Izdat. Statistika, 1973), p. 373.

33. The description that follows is based on Table 2 and M. A. Nadis and A. I. Yagodinskii, "Osnovy usloviia i struktura gosudarstvennykh zaimov," and "Tirazhi vyigryshei i tirazhi pogasheniia po gosudarstvennym zaimam," in P. Ia. Dmitrichev, ed., *Gosudarstvennye zaimy v SSSR* (Moscow: Gosfinizdat, 1956), pp. 44-63 and 100-108.

34. See references given in note 1, especially, Holzman, "The Tax Element in Soviet Bonds," which presents the only previous attempt to calculate the expected rate of return on Soviet bonds.

35. The discussion that follows in the text is based upon an analysis of the 1952 and 1956 mass subscription bond issues and of the 1966 3% state lottery bond. A paper describing the results is available in draft form: James R. Millar and James A. Gentry, "Expected Rates of Return for Selected Post-war Soviet Domestic Bonds."

36. Nakhmanovich, "Gosudarstvennye zaimy SSSR," pp. 53-54.

37. This calculation ignores the fact that these bonds are sold at a slight premium.

38. According to Valler, "Razvitie gosudarstvennogo kredita," p. 40, n. 1, the total funds actually raised by any given bond issue ordinarily fell somewhat short of the amount subscribed due to labor turnover.

39. See, for example, the works referenced in note 14 above and Milton Friedman and L. J. Savage, "The Utility Analysis of Choices Involving Risk," The Journal of Political Economy, LVI (August 1948), pp. 279-304.

40. Nakhmanovich, "Gosudarstvennye zaimy SSSR," p. 51.

41. Franklyn D. Holzman, "The Soviet Bond Hoax," Problems of Communism, Vol. 6, No. 5 (Sept.-Oct. 1957), p. 49.

42. For a discussion, see James R. Millar, "The Soviet War Budget," Soviet Studies (forthcoming).

43. Holzman, "The Soviet Bond Hoax," p. 49.

44. Morris Bornstein, "An Estimate of the Tax Element in Soviet Bonds: Comment," American Economic Review, Vol. 48, No. 4 (Sept. 1958), p. 665.

45. Holzman, Soviet Taxation, pp. 207-209.

46. For a discussion, see Bornstein, "The Tax Element in Soviet Bonds: A Comment," pp. 662-664, and Holzman, "Reply," American Economic Review, Vol. 48, No. 4 (Sept. 1958), pp. 665-667.

47. Pravda, December 20, 1957, cited in Bornstein, "An Estimate of the Tax Element in Soviet Bonds: A Comment," p. 665.

48. The sharp decline in State Budget defense outlays 1956 through 1958 may be significant in this connection. Also, the index of state retail prices, which shows a small jump in 1958, reflecting the net effect of a sharp rise in prices of alcohol products and small declines in certain food items, notably meat, fish and bread, seems to support the argument. See, Narodnoe khoziaistvo SSSR v 1958 godu, pp. 900 and 770-771 respectively.